

ATTORNEY DOCKET NO. 04159.0001U3
APPLICATION NO. 09/702,094
Page 8 of 16

REMARKS

Claims 1-32 are pending in the present application, U.S. Patent Application No. 09/702,094 (hereinafter "Application"). Claims 1, 4-7, 9-11, 14-27 and 30-31 stand rejected under 35 U.S.C. 102(e) as anticipated by U.S.P.N. 6,130,890 to Leinwand et al (hereinafter "Leinwand"). Claims 2 and 3 are rejected as obvious over Leinwand in view of U.S.P.N. 6,324,585 to Zhang et al (hereinafter "Zhang"). Claims 8, 12, 13, 28, and 29 are rejected as obvious over Leinwand in view of U.S.P.N. 5,231,631 to Buhrke et al (hereinafter "Buhrke"). Claim 32 has been newly added by amendment.

Rejections Under 35 U.S.C. §102(e)

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. See W.L. Gore & Assoc., Inc. v. Garlock, Inc., 721 F.2d 1540 (Fed. Cir. 1983). For a process, anticipation requires identity of the claimed process and a process of the prior art. The claimed process, including each step thereof, must have been described or embodied, either expressly or inherently, in a single reference. See Glaverbel S.A. v. Northlake Mkt'g & Supp., Inc., 45 F.3d 1550 (Fed. Cir. 1995). Those elements must either be inherent or disclosed expressly. See Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560 (Fed. Cir. 1988). Those elements must also be arranged as in the claim. See Richardson v. Suzuki Motor Co., 868 F.2d 1226 (Fed. Cir. 1989). For anticipation, there must be no difference between the claimed invention and the reference disclosure as viewed by a person of ordinary skill in the field of the invention. See Scripps Clinic & Res. Found. v. Genentech, Inc., 927 F.2d 1565 (Fed. Cir. 1991).

Rejections Under 35 U.S.C. §103(a)

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable

ATTORNEY DOCKET NO. 04159.0001U3

APPLICATION NO. 09/702,094

Page 9 of 16

expectation of success must both be found in the prior art, and not based on applicant's disclosure. See In re Vaeck, 947 F.2d 488 (Fed. Cir. 1991).

Independent Claim 1

The Examiner rejects independent claim 1 as anticipated by Leinwand. Claim 1 states in relevant part:

deriving a geographic location of any intermediate hosts contained within the route through the network, using a particular IP address associated with each intermediate host; (Emphasis added).

The Applicants respectfully assert that claim 1 of the Application is not anticipated by Leinwand for at least the reason that Leinwand does not teach or disclose an intermediate host, an intermediate host associated with a particular IP address, or deriving a geographic location of an intermediate host using an IP address, each as recited in claim 1.

The Office Action states in relevant part:

Regarding claim 1, Leinwand teaches a method for routing network traffic, comprising:

...

deriving a geographic location of any intermediate hosts contained within the route through the network, using a particular IP address associated with each intermediate host (col. 2, lines 14-19, Leinwand discloses autonomous systems acting as intermediate nodes to route a packet to its destination; col. 3, lines 20-44, Leinwand discloses autonomous systems having a geographic locations and IP addresses assigned to a system based on its geographic area); (Emphasis added).

Leinwand discloses a system for routing a packet from a source to a destination with the source IP address associated with one geographic area, and the destination IP address associated with another geographic area. The source and destination IP addresses in Leinwand are each associated with an autonomous system (hereinafter "AS"), with each AS associated with a collection of IP addresses. The collection of IP addresses in the AS may constitute thousands or millions of IP addresses, and accordingly the collection of addresses associated with an AS is mapped to a large geographic area defined the collection. Leinwand expressly states that the AS itself is not associated with any particular geographic location or area.

ATTORNEY DOCKET NO. 04159.0001U3
APPLICATION NO. 09/702,094
Page 10 of 16

Leinwand discloses:

IP addresses are typically assigned to autonomous systems ("ASs") within the Internet. An autonomous system is a collection of IP addresses and IP-capable devices and communications links under a single administrative domain. An autonomous system assigned the IP addresses may also be an Internet Service Provider ("ISP"). A particular AS may be assigned a range of IP addresses. For example, a single AS may have the IP addresses 202.123.4.0 through 202.123.7.255. Leinwand Col. 2, lines 3-11. (Emphasis added).

There is no geographic correlation between the destination address and the physical location(s) associated with the AS assigned the destination address. IP addresses may come in clusters because a range of IP addresses may be assigned to the same AS. For example, an AS in Japan might be assigned the IP address range of 202.123.4.0 through 202.123.7.255. However, no convention specifies that all IP addresses of a particular range will be in an AS associated with a specific country or other geographic region. Therefore, similar destination addresses could correspond to destinations which are widely separated geographically. Nothing about a destination address implies the geographic location of the destination or the geographic location of the AS that is assigned the IP address of the destination. Leinwand Col. 2, lines 35-49. (Emphasis added).

The present invention provides a method and system for determining a route for a packet traveling over at least one system from a source to a destination. A first geographic area corresponds to the source and a second geographic area corresponds to the destination. The destination further has an address which does not correspond to the second geographic area. In this aspect, the method and system comprise associating an address for the destination with the second geographic area to allow selection of the route for the data packet based on the second geographic area. Leinwand Col. 3, lines 9-19. (Emphasis added).

As disclosed above, the AS of Leinwand has a collection of IP addresses "associated with" a geographic area. The geographic area defined by its collection of IP addresses has nothing to do with the geographic location of the AS itself. In other words, the references in Leinwand to the "geographic area" of an autonomous system do not refer to the location of the

ATTORNEY DOCKET NO. 04159.0001U3
APPLICATION NO. 09/702,094
Page 11 of 16

AS itself, but rather the area associated with the AS's collection of IP addresses. See Leinwand Col. 3 lines 9-48. Further, Leinwand is not directed to the IP address of the AS itself, nor using the IP address of the AS to make routing decisions. This flows logically from the fact that the AS of Leinwand does not itself receive and route network traffic. Rather, receiving and routing are performed by one of the many devices whose IP addresses are associated with the AS.

Claim 1 of the Application recites deriving the geographic location of an intermediate host itself using the particular IP addresses of the intermediate host, and is allowable over Leinwand for several reasons. First, the AS of Leinwand is associated with a collection of IP addresses (not its own), where the collection defines a large geographic area, such as a country. According to Leinwand, the geographic area "associated with" an AS via its collection of IP addresses has nothing to do with the geographic location of the AS itself. Claim 1, in contrast, is allowable for at least the reason that it recites deriving the geographic location of an intermediate host itself. Second, Claim 1 is allowable for at least the reason that Leinwand does not disclose deriving the geographic location of the intermediate host itself using the particular IP address assigned to the host, as recited in claim 1.

Independent Claim 24

Independent claim 24 contains at least the limitations of claim 1 discussed in the Remarks. Accordingly, the Applicants respectfully assert that claim 24 is allowable for at least one or more of the reasons given for the allowability of claim 1.

Dependent Claim 10

The Office Action asserts that claim 10 is anticipated by Leinwand, and states in relevant part:

Regarding claim 10, Leinwand teaches the method as set fourth in claim 1, wherein the geographic location comprises the geographic location of the source and directing the network traffic to the desired destination comprises selecting the desired destination because it has content associated with the geographic location (col. 11, lines 39-50, Leinwand discloses a phone call being routed to a geographic region in which the physical destination of the call is located. (Emphasis added).

ATTORNEY DOCKET NO. 04159.0001U3
APPLICATION NO. 09/702,094
Page 12 of 16

Claim 10 depends from claim 1 and further recites selecting the desired network destination because it has content associated with the geographic location. Claim 10 is currently amended to recite types of content which may be associated with a geographic location, such as advertising content, promotional content, or content presented in a language associated with a geographic area. Support for claim 10 as amended can be found in the Application, for example, at Page 28, line 11 to Page 29, line 7; Page 29, lines 16-20; and Page 30, lines 3-7. Accordingly, claim 10 of the Application recites:

The method as set forth in claim 1, wherein the geographic location comprises the geographic location of the source and directing the network traffic to the desired destination comprises selecting the desired destination because it has content associated with the geographic location, wherein the content is one of advertising content associated with the geographic location, promotional content associated with the geographic location, or content in a language associated with the geographic location. (Emphasis added).

The language cited in the Office Action discloses:

For example, the method 200 may be performed for a third router (not shown) in a third AS (not shown) having a third geographic area.

A direct link having a controllable amount of traffic, such as the link 15, is Mao provided, via step 202. The direct link is between the AS 12 routing the data packet and a particular AS 20. The AS 20 has an associated geographic area and is preferably in geographic proximity to the second AS 32. It is then ensured that the direct link will be used when routing a data packet to the destination 34, via step 204. Thus, the data packet will travel via the direct link 15 to the AS 20, then via AS 26 to the second AS 32.

The Applicants are unsure how the cited passage from Leinwand is relevant to claim 10, and respectfully request clarification of the Examiner's reasoning and cited language. The Applicants respectfully assert that claim 10 is allowable for at least the reason that none of the cited prior art references disclose selecting a desired destination because it has content associated

ATTORNEY DOCKET NO. 04159.0001U3
APPLICATION NO. 09/702,094
Page 13 of 16

with the geographic location as recited in claim 10. The Applicants also assert that claim 10 is allowable for at least the reason that it depends from an allowable independent claim.

Dependent Claim 18

The Office Action asserts that claim 18 is anticipated by Leinwand, and states in relevant part:

Regarding claim 18, Leinwand teaches the method as set forth in claim 15, wherein analyzing comprises modeling behavior of the network (col. 7, lines 5-25, Leinwand discloses routers choosing routes for packets).

Claim 18 recites:

The method as set forth in claim 15, wherein analyzing comprises modeling behavior of the network.

The language cited from Leinwand discloses:

When the source 11 transmits a message, such as a data packet, to the destination 34, the router 14 in the AS 12 makes a decision as to which route to take. In particular, the router 14 determines which of the ASs 20, 22, or 28 the data packet will travel to next. As a result, the router 14 decides the link 15, 16, or 17 on which to send the data packet. The router 14 uses reachability information in order to determine the route. The AS 12 receives reachability information via BGP4 about the AS 32 from the AS 20, the AS 22, and the AS 28. Based on this information, the router 14 in the AS 12 make a decision as to which of the ASs 20, 22, and 28 directly linked to the AS 12 the data packet should travel to. This decision is called choosing the "next hop" because a data packet is typically referred to as "hopping" from one router to another. After the next hop is selected, the data packet travels to the next AS 20, 22, or 28. The data packet then travels through routers (not shown) in the next AS 20, 22, or 28. One such router, at a border of the next AS 20, 22, or 28 determines the subsequent AS which the data packet will hop to next. Thus, these routers (not shown) will select one of the links 21, 24, and 29.

To one of skill in the art, the above cited language discloses the use of simple prior art routers ("routers choosing routes for the packets") combined with the autonomous system

ATTORNEY DOCKET NO. 04159.0001U3**APPLICATION NO. 09/702,094****Page 14 of 16**

disclosed in Leinwand. The Applicants respectfully assert that claim 18 is allowable for at least the reason that the prior art routers disclosed in Leinwand do not teach or disclose modeling network behavior as recited in claim 18. If the Examiner asserts that Leinwand discloses modeling network behavior as recited in claim 18, the Applicants respectfully request clarification of the Examiner's reasoning and citation. Additionally, the Applicants assert that claim 18 is allowable for at least the reason that it depends directly or indirectly from allowable independent claim 1.

Dependent Claim 19

The Office Action asserts that claim 19 is anticipated by Leinwand, and states in relevant part:

Regarding claim 19, Leinwand teaches the method as set forth in claim 18, wherein modeling comprises approximating the behavior at nodes (col. 7, lines 5-23, Leinwand discloses autonomous systems receiving reachability information in order to determine the routes).

Claim 19 recites:

The method as set forth in claim 18, wherein modeling comprises approximating the behavior at nodes.

The Applicants respectfully assert that claim 19 is allowable for at least the reason that it depends from allowable dependent claim 18, and for at least the reasons given for the allowability of claim 18. If the Examiner asserts that Leinwand discloses modeling network behavior by approximating the behavior at nodes, as recited in claim 19, the Applicants respectfully request clarification of the Examiner's reasoning and citation.

Dependent Claim 20

The Office Action asserts that claim 20 is anticipated by Leinwand, and states in relevant part:

Regarding claim 20, Leinwand teaches the method as set forth in claim 18, wherein modeling comprises simplifying the map of the network by combining nodes in traffic routes (col. 1, lines 39-50,

ATTORNEY DOCKET NO. 04159.0001 U3
APPLICATION NO. 09/702,094
Page 15 of 16

Leinwand discloses calls routed to a geographic region; col. 2, lines 21-32, Leinwand discloses router acting as a node for data to access multiple routes).

Claim 20 recites:

The method as set forth in claim 18, wherein modeling comprises simplifying the map of the network by combining nodes in traffic routes.

The Applicants respectfully assert that claim 20 is allowable for at least the reason that it depends from allowable dependent claim 18, and for at least the reasons given for the allowability of claim 18. If the Examiner asserts that Leinwand discloses modeling network behavior by simplifying the network map by combining nodes in traffic routes, as recited in claim 20, the Applicants respectfully request clarification of the Examiner's reasoning and citation.

Dependent Claims 2-9, 11-17, 21-23, and 25-31

The Applicants respectfully assert that dependent claims 2-9, 11-17, 21-23, and 25-31 are allowable for at least the reason that each depends directly or indirectly from an allowable independent claim.

Independent Claim 32

Claim 32 has been newly added by amendment, and recites a method for routing network traffic using a routing device. Claim 32 recites limitations of independent claim 1, and so is allowable for at least one or more of the reasons given for the allowability of claim 1. Claim 1 is also allowable for at least the reason that it recites a routing device which receives and directs network traffic by deriving a geographic location of an intermediate host using the particular IP address of the intermediate host. Claim 32 is thus allowable over Leinwand which in contrast does not disclose a single routing device which receives and directs traffic based on the geographic location of an intermediate host.

ATTORNEY DOCKET NO. 04159.0001U3

APPLICATION NO. 09/702,094

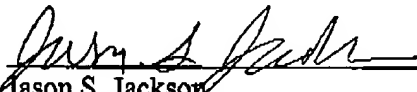
Page 16 of 16

CONCLUSION

In view of the Remarks, each of the presently pending claims in the Application is believed to be in condition for allowance. Accordingly, the Examiner is respectfully requested to pass the Application to issue. No additional fee is believed due. However, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

NEEDLE & ROSENBERG, P.C.


Jason S. Jackson
Registration No. 56,733

NEEDLE & ROSENBERG, P.C.
Customer No. 23859
678-420-9300
678-420-9301 (fax)